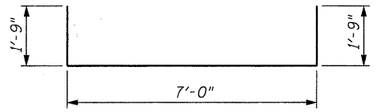
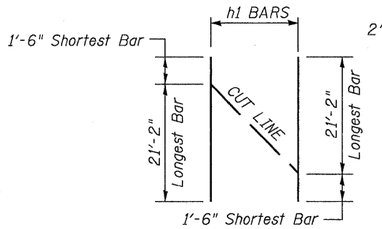
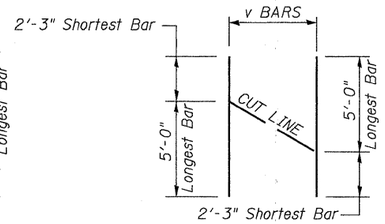
BOX CULVERT END SECTION, CULVERT NO. 1
STA. 747 + 50



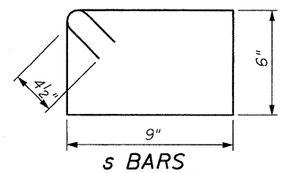
x_2 BARS



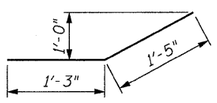
BAR h_1
CUT DIAGRAM



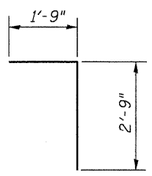
BAR v
CUT DIAGRAM



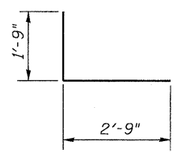
s BARS



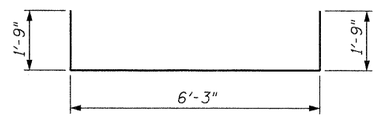
x BARS



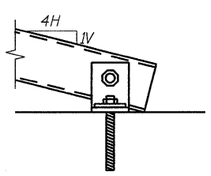
d BARS
(TOE WALL)



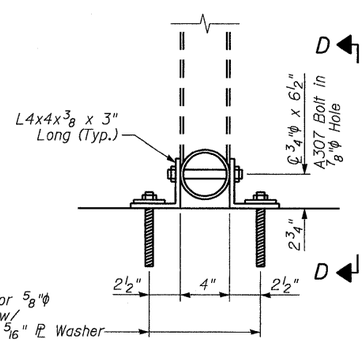
d_1 BARS
(SIDE WALLS)



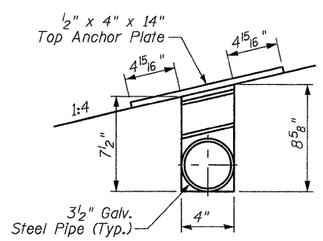
x_1 BARS



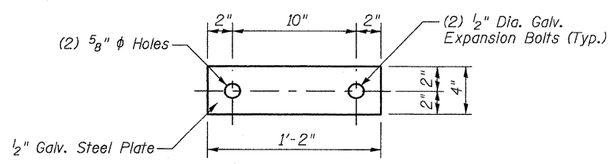
VIEW D-D



VIEW C-C



DETAIL "A"



TOP ANCHOR PLATE

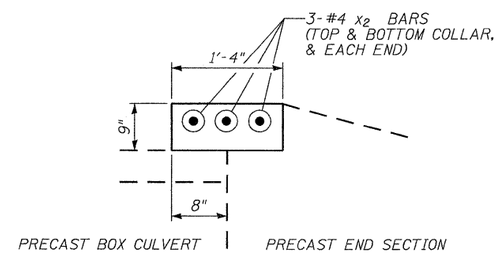
BILL OF MATERIALS
(For Information Only)

BAR	NO.	SIZE	LENGTH	SHAPE	DESCRIPTION	UNIT	QUANTITY
a	48	#5	7'-1"		Concrete Box Culverts	Cu. Yd.	8.1
					Reinforcement Bars	LBS	1,250
d	8	#5	4'-6"		3½" I.D. Galv. Steel Pipe	3 @	7'-8"
						2 @	18'-8"
d_1	44	#5	4'-6"		3½" Galv. Pipe Caps	Each	8
					¼" Galv. Steel Plate (9" Nominal)	Each	6
h	16	#4	21'-9"		½" x 4" x 14" Galv. Steel Plate	Each	6
					⅝" x 9" Galv. Steel Bolts	Each	6
h_1	6	#4	22'-8"		½" Dia. Galv. Expansion Bolts	Each	12
					L4x4x⅜ x 3" Long	Each	4
h_2	4	#6	21'-7"		⅝"φ Anchor Rods	Each	4
					2½" x 2½" x 5/16" ℙ Washer	Each	4
h_3	7	#6	7'-1"		¾"φ x 6½" A307 Bolt	Each	2
s	8	#4	3'-3"				
v	14	#4	7'-3"				
x	8	#4	2'-8"				
x_1	4	#4	9'-9"				
*x_2	12	#4	10'-6"				

* Only required with precast end section. Weight not included in Reinforcement Bars quantity.

MINIMUM BAR LAP

#4 = 1'-8"
#5 = 2'-2"



COLLAR DETAIL "PRECAST OPTION ONLY"

GENERAL NOTES

This work shall be paid for at the contract unit price per Each for Box Culvert End Section, Culvert No. 1.

This work shall be done in accordance with the applicable portion of sections 503, 508, and 540 of the Standard Specifications.

Contractor shall verify Galvanized pipe lengths.

Exposed edges shall be beveled ¾".

The contract unit price "EACH" for Box Culvert End Section, Culvert No. 1 shall include the Bolts, Galvanized pipe, Nuts, Washers, Anchor Rods, pipe caps, Steel Plates, Reinforcement Bars, and Concrete Box Culverts.

The Contractor has the option of using precast construction for the end section. If used, the concrete collar will also be included in the cost of Box Culvert End Section, Culvert No. 1.

Contractor shall provide galvanizing for holes, threads, etc. for field fabricated grate assembly.

The cost of earth excavation, where required, and necessary grading to fit the inlet as shown in the cross sections or to the slope is included in the cost of Box Culvert End Section, Culvert No. 1.

Reinforcement bars shall conform to the requirements of ASTM A706 Gr. 60 (IL Modified). See Special Provisions.

Steel Plates shall conform to AASHTO M-270 Grade 36 and shall be galvanized conforming to AASHTO M-111.

Bolts, Nuts, Washers, and Anchor Rods shall be done in accordance with article 505 of the Standard Specifications and shall be galvanized.

See Plan and Profile Sheet for more information.

See Cross Section Sheet for more information.

FILE NAME =	USER NAME =	DESIGNED - GSS	REVISED -
		DRAWN - GSS	REVISED -
	PLOT SCALE =	CHECKED - CTH	REVISED -
	PLOT DATE = 3/2/2010	DATE - 3/2/2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT END SECTION NO. 1

SCALE: | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
742	37 R-4	OGLE	867	170
		CONTRACT NO. 64E17		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		